SAMSUNG TECHWIN

SAMSUNG

SALES NETWORK

- **SAMSUNG TECHWIN CO., LTD.**
  145-3, Sangdaewon 1-dong, Jungwon-gu, Seongnam-si,
  Gyeonggi-do 462-703, Korea
  TEL : +82-31-740-8137~8139 FAX : +82-31-740-8145
- **SAMSUNG OPTO-ELECTRONICS UK, LTD.**
  Samsung House, 1000 Hillswood Drive, Hillswood Business
  Park Chertsey, Surrey KT16 OPS
  TEL : +44-1932-45-5308 FAX : +44-1932-45-5325
- **TIANJIN SAMSUNG OPTO-ELECTRONICS CO., LTD.**
  7 Pingchang Rd, Nankai Dist. Tianjin 300190, P.R China
  TEL : +86-22-2761-4724(33821) FAX : +86-22-2761-6514

www.samsungtechwin.com
www.samsungcctv.com

P/No. : Z6806-0762-01B
VAN 06. 09

SAMSUNG

Ultimate
Sensitivity

Extreme Low Light Camera **SHC-750** User's Manual

Thank you for purchasing a SAMSUNG CCD CAMERA.
Before attempting to connect or operate this product,
please read these instructions carefully and save this manual for future use.

ENGLISH

The lightning flash with an arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

INFORMATION - This equipment has been tested and found to comply with limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.
Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

WARNING - Changes or modifications not expressly approved by the manufacturer could void the user’s authority to operate the equipment.

CAUTION : To prevent electric shock and risk of fire hazards:

- ◆ Do NOT use power sources other than that specified.
- ◆ Do NOT expose this appliance to rain or moisture.

This installation should be made by a qualified service person and should conform to all local codes.

Major Functions and Features

EMCCD for Extreme Light Sensitivity

A 1/2 inch Electron Multiplying Charge Coupled Device (EMCCD) and advanced digital signal processing technology are employed to produce sharper shapes and colors in the subject image, even under ultra low light conditions. This is suitable for 24-hour outdoor surveillance where available light levels can get extremely low.
-Color: 0.008Lux (F1.2, EIAJ)
-B/W: 0.0005Lux (F1.2, EIAJ)

SHC-750 DSP

The high performance DSP capability of the SHC-750 effectively eliminates low light noise and produces not only clearer images but also sharper colors. The resulting image is vivid and precise.

Day & Night

It automatically distinguishes between day and night, and switches to the appropriate mode. Color mode is used during the day to produce optimum color images; B/W mode is used at night to deliver clearer images in the dark.

Motion Detection

The product's Motion Detection feature detects moving subjects and generates a signal accordingly. An alarm device may be connected directly (i.e. with no external sensor) to the product for more effective security.

Video-Drive/DC-Drive Lens Support

Video-drive lens or DC-drive lens selection is by a simple switch control. The brightness of the video lens can be adjusted without fine VR adjustments.

Samsung Super Noise Reduction (SSNR)

Samsung original SSNR technology effectively eliminates low light noise, increases horizontal resolution, and improves the S/N ratio.
The resulting image is clear and vivid even in low light conditions.

On-Screen Text Display & RS-485 Communication Technology

Camera functions may be controlled using the on-screen text displays.
RS-485 communication technology enables long-distance remote control of the camera functions.

Extra Features

Extra features include Sens-Up, Privacy, Sharpness, Smear Cancel, and Mirror.

Samsung Techwin cares for the environment at all product manufacturing stages to preserve the environment, and is taking a number of steps to provide customers with more environment-friendly products.The Eco mark represents Samsung Techwin's will to create environment-friendly products, and indicates that the product satisfies the EU RoHS Directive.

Warnings & Cautions

This information is provided to ensure your safety and to prevent any losses, financial or otherwise. Please read it carefully and use the product accordingly.

Warning/Attention/Special Mark Messages

Ignoring this information may result in material loss and/or serious personal injuries including death.

Indicates "Never Allowed."

Indicates "No Disassembling."

Indicates "Must Observe."

Correct Disposal of This Product
(Waste Electrical & Electronic Equipment)
(Applicable in the European Union and other European countries with separate collection systems)

This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract.
This product should not be mixed with other commercial wastes for disposal.

Contents

Precautions 8

Product Components 10

Names and Functions of Each Part 11

- Front 11
- Bottom 12
- Back 13

Instructions: Setup 14

- Lens 14

  Using Auto Iris Lenses

  Using C/CS Mount Lenses

Instructions: Connection 18

- Connecting a Monitor 18
- Connecting the Power 19

Instructions: Camera Operation 20

- Menu Functions 20
- Function Settings 21

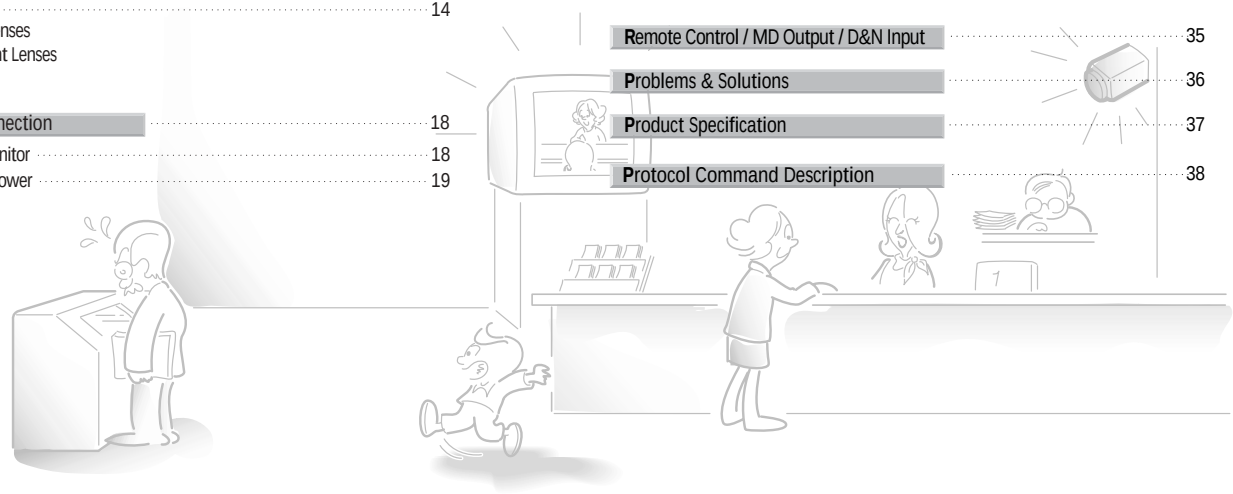
CAMERA ID 22
BACKLIGHT 24
WHITE BAL 26
MOTION DET 27
LENS SELECTION 28
SHUTTER 29
AUTO GAIN CONTROL 30
SENS-UP 30
SSNR 32
SPECIAL 33

Remote Control / MD Output / D&N Input 35

Problems & Solutions 36

Product Specification 37

Protocol Command Description 38



Precautions

Installation of this product by unqualified personnel is strictly prohibited.

Experience and technical know-how are required for proper installation, and to prevent possible fire or electric shock. Please consult an authorized retailer for any installation questions.

If the camera overheats or smoke is noticed, turn the power off immediately.

It may cause fire.

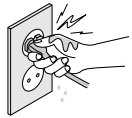
Do not install the product in an area of high humidity or near flammable materials (e.g. oil or gas).

Using the product in an incorrect environment may cause fire, electric shock, or damage to the product.

Do not install the product unless the location can fully support the product's weight.

If it is not properly supported, the product may fall.

Do not handle power plugs with wet hands.



It may cause electric shock.

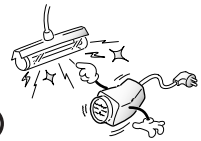
Do not insert foreign objects into the product or disassemble the product.

It may cause fire or damage the product.

Do not expose the product to extreme heat or cold.

Do not expose the product to extreme heat or cold. Temperatures outside its operating temperature range (-10°C(14°F) ~ 50°C(122°F)) may reduce image quality or cause product malfunction. Pay special attention to ventilation around the product in warm locations.

Do not use the product in areas where the illumination levels fluctuate frequently.

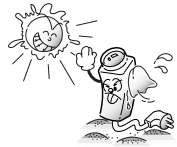


Fluctuating light levels caused by an unstable fluorescent lamp, for example, may cause product malfunction.

Do not drop, shake, or apply severe impact to the product.

It may damage the product.

Do not point the camera towards a strong light source such as the sun.



Excessive light may cause fatal damage to the CCD.

Do not touch the glass on the front of the camera.

This is the most important part of the camera. Be careful not to leave any marks, including fingerprints, on the glass.

Do not expose the product to rain or water, or place it near radioactive materials.

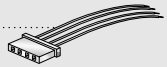
Water inside the camera may cause product malfunction.

Product Components

1. 1/2 inch Ultra Low Light EM CCD
   SHC-750N Color Camera

2. Connector Plug for Auto Iris Lens

3. Remote Connector Plug



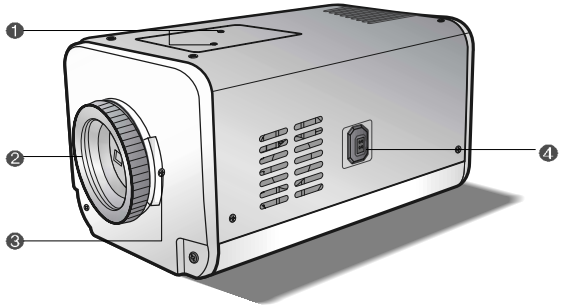
4. C-mount Adapter

5. User Manual

6. DC 12V/4A Adapter

Names and Functions of Each Part

Front



❶ Groove for Tripod Mount
Used to secure the camera case on a tripod mount:
loosen the screws located on the bottom of the tripod and secure the camera to it.

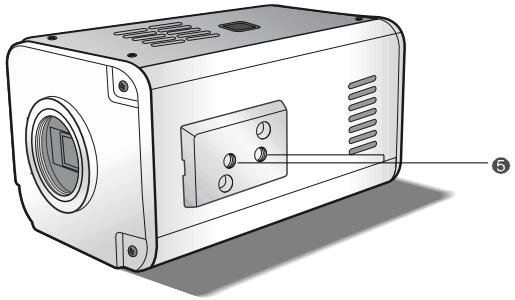
❷ C-mount Lens Adapter
Used for mounting a C-mount lens.

❸ Back Focus Control Screw
Adjusts back focus

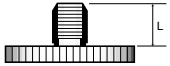
❹ Auto Iris Lens Connector
Connector port for auto iris lens

Names and Functions of Each Part

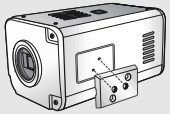
Bottom



⑤ Groove for Tripod Mount
Used to mount the camera on a bracket or a tripod
The size of the screws for this groove is as follows. (ISO standard)

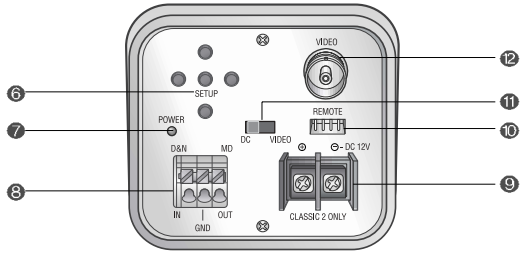


1/4"-20 UNC (20 THREAD)
L:4.5mm±0.2mm (ISO standard),
or 0.197" (ASA standard)



The Tripod anchor can be relocated to the top or the bottom. Always use the screws provided to secure the camera. Otherwise, mounting may not be properly secure or internal damage might occur.

Back



⑥ Function Buttons
Set button: For displaying the menu screen. Press to confirm selections or changes made.
Up/Down button: For moving the screen cursor up/down to select menu items
Left/Right button: For moving the screen cursor left/right to change selected item values

⑦ Power Lamp
The lamp turns on when the power is properly connected.

⑧ D&N Input / MD Output Port
For external signal input to enable Day&Night mode filter control
For motion detection signal output to help improve security effectiveness

⑨ Power Input Connector
Connect the adapter provided with this product here; be sure to match the +/- of the port

⑩ Remote Port
Connect external devices here to control the 5 function-setting buttons remotely

Names and Functions of Each Part

⓫ Auto Iris Lens Selection Switch
Set to DC or Video according to the lens in use

⓬ Video Output Port
For video signal output; connects to a monitor video input port

Instructions: Setup

Lens

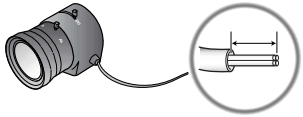
Lenses are sold separately. Auto iris, CS-mount, or C-mount lenses may be used.

Caution

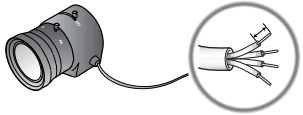
- For maximum utilization of the product's features, we recommend the use of a DC-type auto iris lens.
- Any dirt or smudges including fingerprints may reduce the picture quality in low light conditions; please keep it clean.

When using an auto iris lens

1. Strip the outer layer of the lens cable for about 8mm (0.3in) from the end.



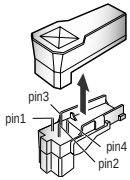
2. Strip the inner layer of the cable for about 2mm (0.08in) from the end.

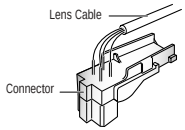


3. Remove the cover from the lens connector jack and solder the cable to the jack pins.

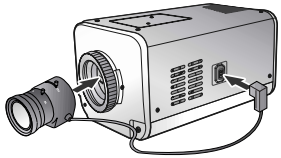
• Video type :
No. 1 Pin --- Red (Power source)
No. 2 Pin --- N.C
No. 3 Pin --- White (Video signal)
No. 4 Pin --- Black (GND)

• DC type :
No. 1 Pin --- Damping -
No. 2 Pin --- Damping +
No. 3 Pin --- Drive +
No. 4 Pin --- Drive -





4. Replace the cover to the lens connector jack. Remove the front glass protector from the product and fit an auto iris lens by screwing the lens in clockwise.
5. Insert the connector jack, now soldered to the lens cable, into the lens connector port located on the side of the product.



6. Set the lens selection switch located on the side either to DC or to Video according to the type of auto iris lens now in use.

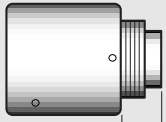
When using a C/CS-mount lens

Check if the lens to be mounted is the C-mount or CS-mount type. The default setting of this camera is for a CS-mount lens, and minor adjustments are required before a C-mount lens can be used.

• When using a CS-mount lens
Remove the front glass protector from the product and fit a CS-mount lens by screwing the lens in clockwise.

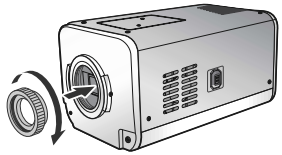
Caution

• Use lens holders that look like the pictures shown below. An incorrect fit between the lens and its holder may result in internal damage to the product or unstable installation.

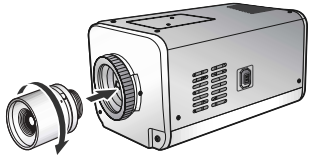


• Using a heavier lens may result in an imbalanced camera and/or cause product malfunction. Limit the lens weight to 450g (1lb) or less. To use ALC, Av mode is strongly recommended.

• When using a C-mount lens
1. Remove the front glass protector from the product and fit a C-mount adapter by screwing it in clockwise.



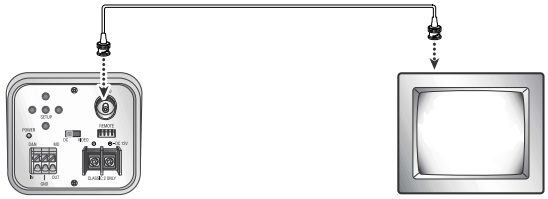
2. Fit a C-mount lens on the adapter by screwing it in clockwise.



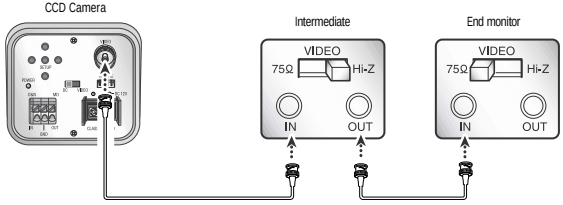
Instruction: Connection

Connecting a Monitor

Connect the video output port located on the back of the product to a monitor.



- The actual connection method depends on the peripherals; please refer to the manual of the device being connected for more details.
- Please make sure all the power is OFF from all relevant devices before making any connections.
- Set the 75Ω / Hi-Z diverter switch of the intermediate video receiver to Hi-Z, and set the end unit device to 75Ω.



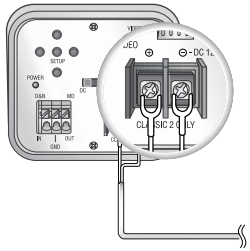
Connecting the Power

Power requirements depend on the model; please check the product model number and its stated power requirements.

The power connection method is as shown below.

Using DC Power

Use the adapter provided with this product.



When the resistance of the copper wire is 20˚C(68˚F)

Copper wire size(AWG)	#24(0.22mm²)	#22(0.33mm²)	#20(0.52mm²)	#18(0.83mm²)
Resistance value(Ω/m)	0.078	0.050	0.030	0.018
Voltage drop(V/m)	0.028	0.018	0.011	0.006

- As shown in above chart, the voltage drops depending on the length of the wire. If the adapter output cable is too long, therefore, it may interfere with the camera operations.

※ Guaranteed operating voltage of the camera: DC12V 10%

※ Actual voltage may vary from the above chart depending on the manufacturer or model.

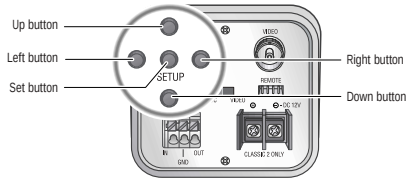
Instruction: Camera Operation

Menu Functions

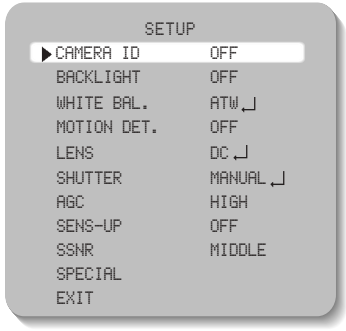
SETUP menu	
Camera ID	• OFF • ON
Backlight	• BLC • OFF
WHITE BAL	• ATW • AWC • MANUAL
Motion Det	• OFF • ON
Lens Selection	• DC/VIDEO
Shutter	• A.FLK • MANUAL
Auto Gain Control	• OFF • LOW • HIGH
Sens-Up	• OFF • AUTO
SSNR	• OFF • LOW • MIDDLE • HIGH
SPECIAL	• PRIVACY • COLOR • IMAGE • RESET • SHARPNESS • SMEAR CANCLE • RETURN • EXIT
EXIT	

Function Settings

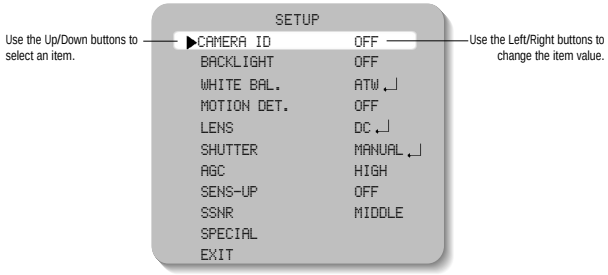
Use the 5 buttons located on the back of the product to set different functions.



1. Press the Set button to display the Main Setup menu on the monitor.



2. Press the Up/Down buttons to move the arrow up/down until the arrow is pointing to the item desired.



3. Use the Left/Right buttons to change the current value.
   - Pressing the Left/Right buttons will display all possible values or modes in order. Keep pressing the button until the desired value or mode is displayed.
4. Select Exit and then press the Set button to exit.

Caution

- The "↵ " sign indicates that there is a further menu within the current mode; press the Set button to move to the menu following.
- The "- - - " sign indicates that the current mode cannot be used.

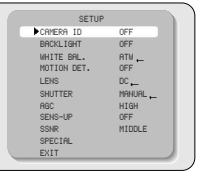
Camera ID

If an ID is assigned to a camera, it can be displayed on a monitor and that camera's communication mode can be changed when communicating with external devices.

1. After the Setup menu is displayed on the monitor, press the Up/Down button to move the arrow until it is pointing to "Camera ID."
2. Press the Left/Right button until the current status changes to "ON."

Caution

- If the current status is "OFF," the camera ID will not be displayed on a monitor even if an ID is assigned.

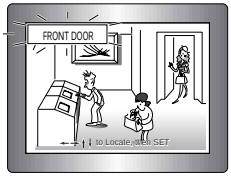


3. Press the Set button.

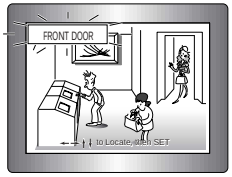
4. A number from 0~255 may be assigned as a camera ID.
   Move the ID number cursor left/right to select and assign an ID.

5. Once the ID is assigned, select a position for ID display.
   ❶ Press the Set button from the Position menu.

❷ ID will be displayed on the top left corner of the monitor.



❸ Use the 4 directional buttons to select a location for the ID to be displayed, and then press the Set button.

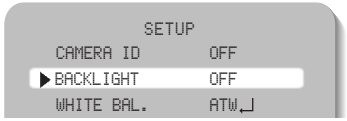


6. Communication mode can be set for communicating with external devices.
   - ▶RTN Pack: Configure package response.
   - ▶BAUD Rate: Set the communication speed (9600/19200/38400/57600).
7. Select "END" and press the Set button when done.

BackLight

Unlike conventional cameras, this camera uses a unique SHC-750 DSP chip to deliver clearer images of both the subject and its background, even against strong backlight.

1. After the Setup menu is displayed on the screen, press the Up/Down buttons to move the arrow to "BackLight."



2. Press the Left/Right buttons to select the mode suitable for the camera's purpose.
   - BLC: Delivers clearer images when the subject is in strong backlight.
   - OFF: Canceled

BLC

OFF

3. Press the Exit button when done.

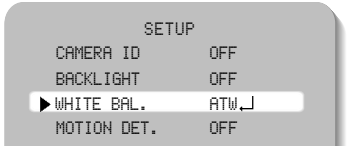
Caution

- We do not recommend the use of manual lenses.
- The BLC function is not available when a Video lens is in use.

White Bal

Use the White Balance feature for screen color control.

1. After the Setup menu is displayed, press the Up/Down buttons to move the arrow to "White Bal."
2. Press the Left/Right buttons to select a mode.



※Choose from the three modes shown below

- ATW : One of the two modes below can be selected
  - Normal - Use when the color temperature is between 1800~10500K
  - Special - Use when the color temperature is between 1600~10500K
- AWC : To find the optimum setting for the current illumination, point the camera at a piece of white paper and then press the Set button. Repeat the process when the illumination changes.
- Manual: Manual control allows finer adjustments. Set the camera to ATW or AWC mode first, and then change to Manual mode. Press the Set button. Decide on the proper color temperature, and then adjust the values of Red and Blue while observing the color changes of the subject on the screen.

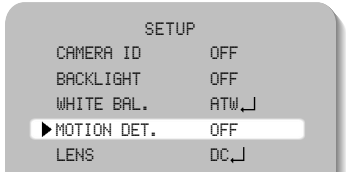
Caution

- The White Balance may not function properly under the following conditions.
- If the subject's environment has very high color temperatures (e.g. clear sky or sunset).
- If the subject is in a dark environment
- If the camera is directly facing a fluorescent light, or if it is subject to extreme fluctuations of light, the White Balance function may become unstable.

Motion Det

This product generates a signal whenever motion is detected. Connecting an alarm device to the product, therefore, may increase security efficiency. Motion detection signals are output through the MD output port.

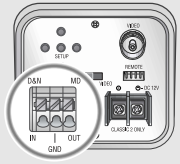
1. After the Setup menu is displayed, press the Up/Down buttons to move the arrow to "Motion Det."
2. Press the Left/Right buttons to select a mode (On/Off).



3. Press the Exit button to save the settings and exit.

Caution

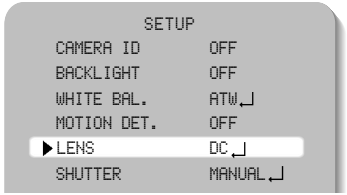
- Perform a lengthy test after setting MD, to confirm everything is operating properly.
- Use of the MD feature is not recommended if the camera is subject to direct fluorescent light or extreme fluctuations of light; malfunction may occur.
- Sudden changes in subject illumination due to flashlights or fluorescent lighting being turned on/off may cause malfunction.
- Other automatic algorithm execution speeds may slow down when the motion detection feature is active.
- This feature is NOT suitable for fires, burglary, or other similar security purposes. The manufacturer will not be responsible for any accidents or loss that may occur under these circumstances.
- The MD output port located on the back of the product can be connected to external alarm devices.



Lens Selection

This feature controls the brightness of the screen.

1. After the Setup menu is displayed, press the Up/Down buttons to move the arrow to "Lens."
2. The lens selected with the Auto Iris lens selection switch will be displayed. (See picture on p.13)



- DC/Video: Used to choose DC or VIDEO according to the type of Auto Iris Lens.

Caution

- When using a Video type auto iris lens

1. Properly adjust the ALC control port on the lens: the usual setting is Av.
2. Depending on the lens type being used, it may not operate properly in AV mode. If the lens does not adjust correctly, set it to PEAK and adjust it by turning the LEVEL adjustment lever in the "L" direction little by little, away from the middle position.

3. If the right level of light cannot be obtained, or if the screen's brightness fluctuates, place the cursor on Video Level Search and press the Set button. Press End when you find the right brightness.
4. If the right level of light cannot be obtained and the lens is still fluctuating, point the camera towards a darker area and repeat step 3.
5. To control the brightness, increase/decrease the Brightness value.
6. To control the diaphragm, increase/decrease the V-Level value.

Caution

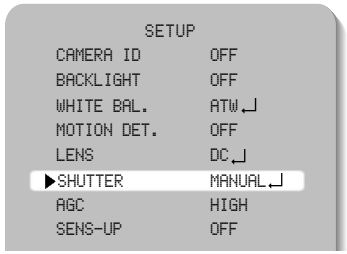
- If an auto iris lens is used, the lens selection switch on the side of the product must be set either to DC or to Video accordingly. (See picture on p.15)
- The brightness may be adjusted if a DC/Video lens is used; the adjustment range is 1~100. Adjust to the optimum screen brightness.
- Some lenses may not work correctly in certain brightness levels.

3. Press the Set button to go back to the previous menu.

Shutter

Select either auto or manual shutter control

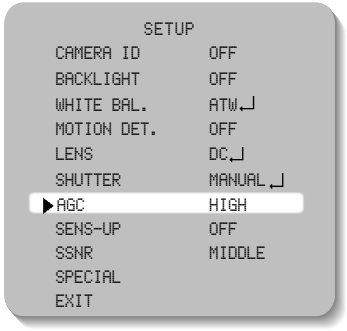
1. After the Setup menu is displayed, press the Up/Down buttons to move the arrow to "Shutter."
2. Press the Left/Right buttons to select a Shutter mode.
   - A.FLK : Select this mode if screen flickering occurs due to a conflict between the illumination and the frequency
   - Manual : Select this mode for manual shutter control



3. Manual mode enables manual shutter control
   - The shutter speed can be from 1/60 sec. to 1/2000 sec. (x2~x128 Sens-up can be operated manually.)
4. Press the Set button when done.

Auto Gain Control

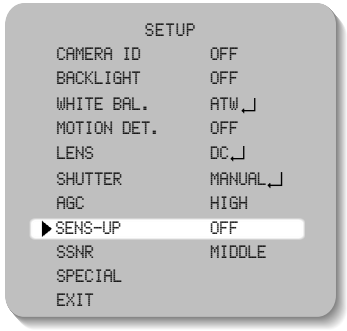
1. After the Setup menu is displayed, press the Up/Down buttons to move the arrow to "AGC."
2. Press the Left/Right buttons to select a mode. As the Gain level increases, the screen becomes brighter and noise level increases.
   - High : Gain automatically changes from 0 up to the maximum of 60dB.
   - Low : Gain automatically changes from 0 up to the maximum of 54dB.
   - Off : Off



Sens-Up

Automatically detects the level of darkness (e.g. at night or under low illumination) and makes adjustments to keep the screen bright and clear.

1. After the Setup menu is displayed, press the Up/Down buttons to move the arrow to "Sens-Up."
2. Press the Left/Right buttons to select a mode.
   - Auto : Automatic Sens-Up mode is selected.
   - Off : Off



3. Press the Set button when done.

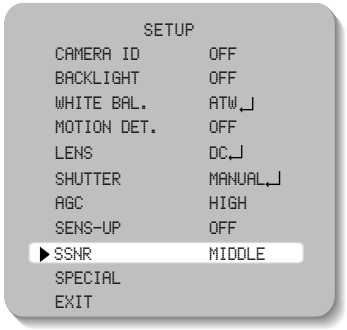
Caution

- Press the Setup button from the Auto menu to adjust the Sens-Up rate (x2~x128).
- As the rate increases, the screen gets brighter but the ghost image gets larger as well.
- Shutter is not available when Auto mode is selected.

SSNR

Low light noise is reduced in different ways depending on the mode; the noise reduction level changes from none to maximum as the mode changes from Off to Low, Middle, and High.

1. After the Setup menu is displayed, press the Up/Down buttons to move the arrow to "SSNR."

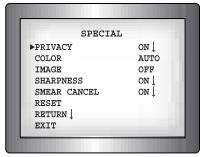


2. Press the Left/Right buttons to select a mode.
   - Off : No noise reduction
   - Low : Low noise reduction with almost no ghost image
   - Middle : Probably the most practical mode, with enough noise reduction and not too much ghost image
   - High : Maximum noise reduction, but the ghost image increases as well

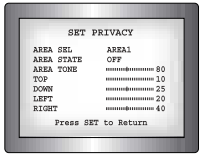
Caution

• When AGC is Off, the SSNR & Sens-Up features are not available.

Special



1. After the Setup menu is displayed, press the Up/Down buttons to move the arrow to "Special."
2. Press the Left/Right buttons to select a mode.
   - Privacy : Masks selected areas from the screen
     - Off : Off
     - On : Privacy mode is currently On
   - • Press the Set button
   - • Select an area to mask from the 4 areas in Area Sel
   - • Change the Area State of the selected area to On
   - • From Area Tone, press the Left/Right buttons to control the brightness
   - • Set the area size from the Top/Down/Left/Right menu, and then press the Set button.



   - Color : Select Color or B/W mode
     - On : Always provide color images
     - Off : Always provide images in B/W If you press 'SET', a menu will appear in which you can turn the BURST signal ON/OFF. By adjusting ON/OFF, you can maintain or eliminate the BURST signal.
     - Auto : Use color and switch to B/W only when illumination level gets very low
     - Exit : The filter can be changed by signals from external devices.

Instruction: Camera Operation

Caution

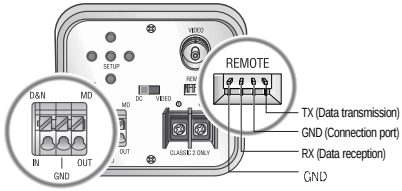
- When using a video auto iris lens and if the lens level is set to low, automatic switching between Color mode and B/W mode may not work properly.
- When the Gain menu is Off, the Color/B&W auto switch feature is not available.
- When the Gain menu is Off, only Color/B&W/Ext may be selected from the Day/Night menu.
- When switching between Color and B&W, the OSD key will be disabled for about 3 seconds for safer operation of the product.
- When infrared light is used, camera focus may not be as good as when using other light sources.

- Image : Image may be reversed horizontally or vertically
  - HRev: Reverse the image horizontally
  - VRev: Reverse the image vertically
  - HVRev: Reverse the image both horizontally and vertically
- Sharpness : Values are 0~31. The lower the value, the more vivid and sharp the image. If the Sharpness level is too low, the image may look unnatural or noise may occur.
- Smear Cancel : DGain values are 0~100. As this value decreases, the smear gets stronger and sharper, and vice versa. Too high a level may distort the image.

- Reset : Resets all settings back to the manufacturer's defaults.
- Return : Saves the special menu and moves to the Setup menu.
- Exit : Saves the menu settings and exits the program.

Remote Control / MD Output / D&N Input

To Remotely Control Function Buttons: Connect a remote jack to the Remote port located on the back of the product and wire it as shown below. External device (e.g. computer) buttons may act identically to the camera buttons, and perform the same functions.



1. RS-485C Communication setting
   - Mode : Serial
   - Data Bit : 8
   - Bit/sec : 9600bps
   - Stop Bit : 1
   - Parity : None
2. Setup Menu control
3. Motion Detection signal output level (10mA or lower)

4. D&N Input
   In order to control a D&N filter using external signals (Ext mode), the system must satisfy the following criteria.
   - Day mode : D&N port must NOT be located near the external signal port (GND port).
   - Night mode : D&N port must be connected to the GND port.

Caution

- Please turn the power OFF before plugging/unplugging the remote jack.
- Do not connect any unnecessary pins (i.e. pins not in use)

Problems & Solutions

If you suspect a product malfunction, please check the suggestions below. If the problem persists, consult the authorized retailer where this product was purchased.

Problem	Solution
Screen is blank.	• Check if the power is connected and flowing properly. • Check if the video cables are connected properly. • If you are using a Video (DC) lens, check if the Auto Iris lens switch is on DC (Video). It must be on Video (DC). • Are you using a Video Auto Iris Lens? • Readjust the Lens VR. (See p. 28)
Screen is not clear.	• Is the lens clean? Wipe the lens with a clean cloth or brush. • Adjust the monitor settings. • If a bright light shows up on the screen, change the location or tilt of the camera. • Readjust the camera's Back Focus. • Adjust the monitor settings. • Check if the connections between the networked computer terminals are working correctly.
Screen is too dark.	• Are you using an Auto Iris lens? Adjust the brightness to the proper level.
Camera is behaving oddly.	• Camera surface is too hot and screen has black lines. • Is the power supply to the camera within the acceptable range? Does the voltage fluctuate frequently?
I cannot select Auto mode in Color; Auto mode in Color is not functioning.	• Is the Color set to "Ext/On/Off"? • Is the Gain set to "Off"? • Is the Video lens level too low?
Motion Detection feature is not working.	• Is the Motion Det set to "Off"? • Is the MD level too low? • Is the MD Area setting correct?
Color is off.	• Is the camera facing the sun or a fluorescent light? • Is an Auto Iris lens being used? Check the connection between the lens connector and the cable.
"FAN DO NOT WORK" is flashing on the screen.	• Check if the Fan is working. Change the Fan if it is not working.

Product Specification

		NTSC (SHC-750N)	PAL (SHC-750P)
POWER		DC 12V (±10%) / 16.8W	
CCD	Total Pixels	680(H) x 500(V)	
	Effective Pixels	658(H) x 496(V)	
	Size	1/2" inch TI EM-CCD	
Sync.	Scanning System	2:1 Interlace	
	Synchronization	Internal	
	Frequency	Horizontal : 15.734KHz Vertical : 59.94㎐	Horizontal : 15.625KHz Vertical : 50.00㎐
ELECTRICAL	Resolution	420TV Lines : Color, 480 TV Lines : B/W	
	Video Output	1.0Vp-p/75Ω (Video 0.714Vp-p, Sync 0.286Vp-p)	1.0Vp-p/75Ω (Video 0.7Vp-p, Sync 0.3Vp-p)
	S/N (Y signal)	50dB (AGC Off, Weight ON)	
	Min. Illumination	Color : 0.008 Lux(F1.2,50 IRE) B/W : 0.0005 Lux, 0.000003 Lux (Sens-up 128X)	
	Day & Night	BW/COLOR/AUTO(Filter Auto Change)/EXT (External Day/Night mode control capability via terminal at the back panel)	
	Gain Control	Low, High, OFF Selectable	
	BLC	Back Light Compensation	
	White Balance	ATW/AWC/Manual (1800°K ~10,500°K)	
	Electronic shutter speed	AUTO/MANUAL (1/60 ~ 1/2,000sec)	AUTO/MANUAL (1/50 ~ 1/2,000sec)
	Sens-Up	ON/OFF(selectable limit ~ X128)	
	O.S.D	Built-in	
	Motion Detection	ON/OFF(Built-in Alarm output connector)	
	RS-232C	Built-in	
	SSNR	Low, Middle, High, OFF Selectable	
	Privacy Function	ON/OFF(4 Programmable Zone)	
	IRIS Control	DC / Video	
Lens Mount		CS Mount (C-Mount is mountable by using adaptor)	
Dimension		75(W) x 65(H) x 143(D)mm	
Operating temperature		-10°C ~ +50°C(14°F ~122°F)	
Operating Humidity		MAX ~ 90% RH	
Weight		600g	

Protocol Command Description

Command Name		Byte1	Byte2	Byte3	Byte4 || Byte5	Byte6	Byte7	Byte8	Byte9	Byte10	Byte11
	Function										
	Command Packet	STX	CAM ID	HOST ADDR	Command	Data3	Data4	Data5	Data6	ETX	CHECK SUM
	Return Packet	STX	CAM ID	HOST ADDR	Response	Data3	Data4	Data5	Data6	ETX	CHECK SUM
OSD Menu On/Off	Function	Display OSD menu on the screen. Clear OSD menu and save current menu setup.									
	Command Packet	A0h	CAM ID	HOST ADDR	00B1h	P1	00h	00h	00h	AFh	CHECK SUM
	Return Packet	A0h	CAM ID	HOST ADDR	00B1h	P1	00h	00h	00h	AFh	CHECK SUM
	Parameter	P1: 00h = ON 01h = OFF									
OSD Menu Up	Function	Move OSD arrow to up.									
	Command Packet	A0h	CAM ID	HOST ADDR	0008h	00h	00h	00h	00h	AFh	CHECK SUM
	Return Packet	A0h	CAM ID	HOST ADDR	0008h	00h	00h	00h	00h	AFh	CHECK SUM
OSD Menu Down	Function	Move OSD arrow to down.									
	Command Packet	A0h	CAM ID	HOST ADDR	0010h	00h	00h	00h	00h	AFh	CHECK SUM
	Return Packet	A0h	CAM ID	HOST ADDR	0010h	00h	00h	00h	00h	AFh	CHECK SUM
OSD Menu Left	Function	Move OSD arrow to left.									
	Command Packet	A0h	CAM ID	HOST ADDR	0004h	00h	00h	00h	00h	AFh	CHECK SUM
	Return Packet	A0h	CAM ID	HOST ADDR	0004h	00h	00h	00h	00h	AFh	CHECK SUM
OSD Menu Right	Function	Move OSD arrow to right.									
	Command Packet	A0h	CAM ID	HOST ADDR	0002h	00h	00h	00h	00h	AFh	CHECK SUM
	Return Packet	A0h	CAM ID	HOST ADDR	0002h	00h	00h	00h	00h	AFh	CHECK SUM

DECLARATION OF CONFORMITY

Application of Council Directive(s)	89 / 336 / EEC
Manufacturer's Name	SAMSUNG TECHWIN CO., LTD
Manufacturer's Address	SAMSUNG TECHWIN CO., LTD 42, SUNGJU-DONG CHANGWON-CITY, KYUNGNAM, KOREA, 641-120
European Representative Name	
European Representative Address	
Equipment Type/Environment	CCTV Camera
Model Name	SHC-750
Beginning Serial NO.	S6060001
Year of Manufacture	2006. 9. 1
Conformance to	EN 50081-1:1992 EMC-Directive 89/336 EEC and 92/31/EEC EN 50130-4:1996

We, the undersigned, hereby declare that the equipment specified above conforms to the above Directive(s).

Manufacturer	SAMSUNG TECHWIN CO., LTD	Legal Representative in Europe
Signature	Young Taek, SON	Signature
Full Name	YOUNG TAEK SON	Full Name
Position	QUALITY CONTROL MANAGER	Position
Place	CHANGWON, KOREA	Place
Date	2006. 9. 1	Date

MEMO

MEMO

How to use the video type auto iris lens

When using a video type auto iris lens, adjust image brightness by using the VIDEO LEVEL SEARCH function as follows:

STEP 1

Press the SET button, then the SETUP menu will appear. Move the arrow to indicate LENS by using the UP/DOWN button and then press the SET button.

STEP 2

Move the arrow to indicate VIDEO LEVEL SEARCH by using the UP/DOWN button and then press the SET button. If the video-type auto iris is adjusted normally, an "OK" message will appear. In order to adjust the image brightness, increase or decrease the value of BRIGHTNESS or the V-LEVEL. When the proper brightness is found, exit from the SETUP menu. Refer to page 28 of the manual for a detailed explanation.

caution

① If an error message appears after the Video Level Search function is performed, turn the lens LEVEL adjustment tab in the 'L' direction little by little away from the middle position and then perform the function again. When it is functioning normally, the lens keeps opening and closing.

② If the Video Level Search function is performed with the camera facing objects that are too bright or too dark, an error message may appear.